

BEFORE THE BOARD OF PATENT APPEALS AND INTERFERENCES

Applicant(s):	§	
Melody Vos and Jeff Slavin	§	Art Unit: 2175
	§	
Serial No.: 09/990,770	§	Examiner: Neveen Abel Jalil
	§	
Filed: November 21, 2001	§	Docket No.: 149-0046US
	§	
For: <i>Database Management System and</i>	§	Customer No.: 29855
<i>Method which Monitors Action</i>	§	
<i>Results and Adjusts User Parameters</i>	§	
<i>In Response</i>	§	

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Commissioner for Patents
P. O. Box 1450
Alexandria, VA 22313-1450

APPEAL BRIEF

This is a reinstatement of an appeal in response to the rejection of claims 1-4, 6, 8-10, 12-19, 21, 23-25, 27-34, 36, 38-40, and 42-45 in the Final Office Action dated 14 August 2008. Because this is a reinstatement of an appeal, no fee is believed due.

As indicated in 73 FR 74972, Assignee understands that the effective date for final rules on Appeal Briefs published at 73 FR 32938 is delayed. Accordingly, this Appeal Brief complies with the existing rules.

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I. REAL PARTY IN INTEREST

The real party in interest in the above referenced patent application is BMC Software, Inc. of Houston, Texas.

II. RELATED APPEALS AND INTERFERENCES

To the present knowledge of Appellants' representative, there are currently no related appeal or interference proceedings that will directly affect, or be directly affected by, or have a bearing on, the Board's decision in the present Appeal.

III. STATUS OF CLAIMS

Claims 1-4, 6, 8-10, 12-19, 21, 23-25, 27-34, 36, 38-40, and 42-45 are pending, and claims 5, 7, 11, 20, 22, 26, 35, 37, and 41 are cancelled. Claims 1-4, 6, 8-10, 12-19, 21, 23-25, 27-34, 36, 38-40, and 42-45 are rejected and are appealed.

IV. STATUS OF AMENDMENTS

No amendments have been filed subsequent to the Final Office Action.

V. SUMMARY OF CLAIMED SUBJECT MATTER

Independent claim 1 is directed to an automated database management method for a database comprising one or more database objects. The method includes associating management criteria with the database to manage database objects (Step 502-Fig. 5; page 21, ll. 13-16; and page 22, ll. 13-17), collecting statistics relating to operation of the database (See Step 852-Fig. 11 and page 29, ll. 12-13; See also steps 504 to 512-Fig. 5, 708-Fig. 7A, 802-Fig. 8, 812-Fig. 9, and 832-Fig. 10), and determining characteristics of the database objects based on the collected statistics (See Step 854-Fig. 11 and page 29, ll. 13-15; See also steps 512 to 514-Fig. 5, 804-Fig. 8, 814-Fig. 9, and 834-Fig. 10).

Based on the management criteria and the determined characteristics of the database objects, the method includes determining actions to be performed on one or more database objects to modify the one or more database objects (See Step 856-Fig. 11 and page 29, ll. 15-17;

See also steps 806-Fig. 8, 816-Fig. 9, 836-Fig. 10, 874-Fig. 12, and 892-Fig. 14), modifying the one or more database objects by performing the actions on the database objects (See Step 858-Fig. 11 and page 29, ll. 17-18; See also steps 810-Fig. 8, 820-Fig. 9, 840-Fig. 10, and 876-Fig. 12), and monitoring results of modifying the database objects (See Step 860-Fig. 11 and page 29, ll. 18-19; See also steps 824-Fig. 9 and 844-Fig. 10). Based on the results of modifying the database objects, the method includes reconfiguring the management criteria associated with the database (See Step 862-Fig. 11 and page 29, ll. 19-20).

Independent claim 16 is directed to a program storage device comprising program instructions stored thereon. The program instructions are computer-executable to cause a programmable control device to associate management criteria with a database to manage database objects of the database (Step 502-Fig. 5; page 21, ll. 13-16; and page 22, ll. 13-17), collect statistics relating to operation of the database (See Step 852-Fig. 11 and page 29, ll. 12-13; See also steps 504 to 512-Fig. 5, 708-Fig. 7A, 802-Fig. 8, 812-Fig. 9, and 832-Fig. 10), and determine characteristics of the database objects based on the collected statistics (See Step 854-Fig. 11 and page 29, ll. 13-15; See also steps 512 to 514-Fig. 5, 804-Fig. 8, 814-Fig. 9, and 834-Fig. 10).

Based on the management criteria and the determined characteristics of the database objects, the program instructions cause the programmable control device to determine actions to be performed on one or more of the database objects to modify the one or more database objects (See Step 856-Fig. 11 and page 29, ll. 15-17; See also steps 806-Fig. 8, 816-Fig. 9, 836-Fig. 10, 874-Fig. 12, and 892-Fig. 14), modify the one or more database objects by performing the actions on the database objects (See Step 858-Fig. 11 and page 29, ll. 17-18; See also steps 810-Fig. 8, 820-Fig. 9, 840-Fig. 10, and 876-Fig. 12), and monitor results of modifying the database objects (See Step 860-Fig. 11 and page 29, ll. 18-19; See also steps 824-Fig. 9 and 844-Fig. 10). Based on the results of modifying the database objects, the program instructions cause the programmable control device to reconfigure the management criteria associated with the database (See Step 862-Fig. 11 and page 29, ll. 19-20).

Independent claim 31 is directed to a database management system. The system includes a CPU, a database coupled to the CPU, and a memory coupled to the CPU. The

database comprises one or more database objects, and the memory stores program instructions. The program instructions are executable by the CPU to associate management criteria with the database to manage database objects (Step 502-Fig. 5; page 21, ll. 13-16; and page 22, ll. 13-17), collect statistics relating to operation of the database (See Step 852-Fig. 11 and page 29, ll. 12-13; See also steps 504 to 512-Fig. 5, 708-Fig. 7A, 802-Fig. 8, 812-Fig. 9, and 832-Fig. 10), and determine characteristics of the database objects based on the collected statistics (See Step 854-Fig. 11 and page 29, ll. 13-15; See also steps 512 to 514-Fig. 5, 804-Fig. 8, 814-Fig. 9, and 834-Fig. 10).

Based on the management criteria and the determined characteristics of the database objects, the program instructions are executable by the CPU to determine actions to be performed on the database objects to modify the database objects (See Step 856-Fig. 11 and page 29, ll. 15-17; See also steps 806-Fig. 8, 816-Fig. 9, 836-Fig. 10, 874-Fig. 12, and 892-Fig. 14), modify the database objects by performing the actions on the database objects (See Step 858-Fig. 11 and page 29, ll. 17-18; See also steps 810-Fig. 8, 820-Fig. 9, 840-Fig. 10, and 876-Fig. 12), and monitor results of modifying the database objects (See Step 860-Fig. 11 and page 29, ll. 18-19; See also steps 824-Fig. 9 and 844-Fig. 10). Based on the results of modifying the database objects, the program instructions are executable by the CPU to reconfigure the management criteria associated with the database (See Step 862-Fig. 11 and page 29, ll. 19-20).

VI. GROUND OF REJECTION TO BE REVIEWED ON APPEAL

Claims 1-4, 6, 8-10, 12-19, 21, 23-25, 27-34, 36, 38-40, and 42-45 stand rejected under 35 U.S.C. § 103(a) as being unpatentable over *CHANG*, Fangzhe et al., "Automatic Configuration and Run-Time Adaptation of Distributed Applications," IEEE 2000 ("*Chang*") in view of US 5,884,311 ("*Blattmann*").

VII. ARGUMENT

Claims 1-4, 6, 8-10, 12-19, 21, 23-25, 27-34, 36, 38-40, and 42-45 stand rejected under 35 U.S.C. § 103(a) as being unpatentable over *Chang* in view of *Blattmann*. Assignee respectfully traverses the contention that *Chang* in view of *Blattmann* renders the listed claims obvious because (1) the references do not teach or suggest each and every claimed element called for in independent claims 1, 16, and 31, and (2) there is no motivation to combine *Chang* and *Blattmann* as proposed.

A. Assignee's Claims

Each of Assignee's claims 1-4, 6, 8-10, 12-19, 21, 23-25, 27-34, 36, 38-40, and 42-45 is directed to automated database management. Management criteria (e.g., one or more policies¹ or definitions²) are associated with a database to manage database objects³, and statistics relating to operation of the database are collected. Based on the collected statistics, characteristics of the database objects are determined. Based on the management criteria and the determined characteristics of the database objects, actions⁴ to be performed on one or more database objects are determined to modify the one or more database objects. These determined actions are performed on the database objects to modify them, and the results are monitored. Based on the results, the management criteria are reconfigured. See e.g., independent claims 1, 16, and 31.

¹ Policies associated with a database are defined as rules that may govern how database objects and actions are managed by components, and the policies may instruct what actions are to be performed and when and how to perform those actions. See e.g., page 22, ll. 13-17.

² Definitions associated with a database are defined as a set of rules which, when applied to a database catalog, produces a list of database objects. See e.g., page 21, ll. 13-14.

³ Database objects can be data stored in a database of a storage device or file server (224). See page 12, ll. 10-13.

⁴ Actions to modify database objects can be actions to correct performance of the database management system, to prevent new or associated problems, to spread data across existing data sets, to create a new data set, to relocate specific datasets, to allocate free space by a REORG utility, to reduce frequent reorganization of database objects, to turn off compression, to apply compression, or to determine the most effective compression algorithm for specific objects. See page 16, ll. 13-17; page 18, ll. 1-3; page 24, line 25 to page 25, line 7; page 25, ll. 9-16; page 25, ll. 18-27; and page 26, ll. 1-9.

B. *Chang* in view of *Blattmann* Fails to Teach Each Claimed Element

Chang and *Blattmann* even if combined fail to render Assignee's claims obvious because the references fail to teach or suggest each and every claimed element of Assignee's claims. In the rejection, *Blattmann* is cited to modify the teachings of *Chang*, while *Chang* (if modified as proposed) is alleged to disclose each of the claimed elements of Assignee's claims. See Final Office Action at pg. 4.

Looking first at *Chang*, a fundamental difference exists between *Chang*'s teachings and Assignee's claims. *Chang* teaches how alternate configurations of a distributed application can be chosen at run-time while executing on a distributed platform (pg. 11 (¶ 5)) and describes a framework using a client-server application (pg. 12 (¶ 5-7)). In essence, *Chang* is directed to configuring and adapting a distributed application at run-time. By contrast, Assignee's claims are directed to managing a database having database objects.

With this fundamental difference, there are numerous and specific differences between *Chang*'s teachings and Assignee's claims taken as a whole, and such differences should be part of the basic factual inquiry for framing an obviousness rejection of Assignee's claims. See *KSR*, 550 U.S. at ___, 82 USPQ2d at 1391 (2007). In fact, the differences between *Chang*'s teachings and Assignee's claims indicate that *Chang* fails to teach or suggest the claimed elements that the rejection purports *Chang* to teach.

First, Assignee's claims call for management criteria to be associated with a database to manage database objects. See claims 1, 16, and 31. The rejection contends that *Chang* discloses associating management criteria with a database to manage database objects at page 13, ¶ 3-6. (Final Office Action at 3). This is an incorrect characterization of *Chang*. Clearly, *Chang* is directed to a distributed application and discusses forms of information for an interface to tune such a distributed application. See *Chang* at pages 14 and 15, ¶ 2. In *Chang*, resource characteristics (e.g., CPU load and network bandwidth) are explicitly of interest to the distributed application (not a database). Such resource characteristics are monitored so an appropriate configuration of the distributed application can be chosen to automatically adapt the application at run time to changes in CPU load and network bandwidth. See *Chang* at page 12, ¶ 3 and page 16, ¶ 4. *Chang* says nothing about management criteria associated with a

database and used to manage database objects of that database. Thus, in *Chang*, there is no disclosure of database objects (or any equivalent entity) or associated management criteria of interest to managing a database as in Assignee's claims, and there is no discussion of resource characteristics of interest to such a database.

Second, the rejection contends that *Chang* discloses collecting statistics relating to operation of a database at page 14 and at page 15, ¶ 2 and determining characteristics of the database objects based on the collected statistics at page 16, ¶ 4 and page 17, ¶ 1-3. (Final Office Action at 3). Again, the rejection incorrectly characterizes *Chang*. In particular, *Chang* discloses a monitoring agent specific to a distributed application that monitors resources of interest to that distributed application (e.g., CPU load and network bandwidth) and monitors the progress of the application. A resource scheduler in *Chang* correlates the observed resource characteristics of the application to models stored in a performance database, which is not disclosed as being monitored and which is not disclosed as having statistics collected with respect to its operation. Then, a steering agent in *Chang* reconfigures the application by listening to control messages and changing the configuration of the distributed application. See *Chang* at page 16, ¶ 4 and page 17, ¶ 1-3. Thus, *Chang* fundamentally focuses on monitoring resource characteristics of interest to a distributed application so the configuration of the distributed application can be changed. Accordingly, *Chang* fails to disclose or fairly suggest collecting statistics relating to the operation of a database and determining characteristics of interest to a database based on such collected statistics, as called for in Assignee's claims.

Third, the rejection contends that *Chang* discloses determining actions to be performed on one or more database objects to modify the database objects based on management criteria and determined characteristics of the database objects at page 12, ¶ 1. In addition, the rejection contends that *Chang* discloses modifying one or more database objects by performing actions on the database objects at page 12, ¶ 3. (Final Office Action at 3). As noted previously, *Chang* focuses on monitoring resources of interest to a distributed application and switching the configuration of the distributed application. The disclosure of *Chang* at page 12, ¶ 1 and ¶ 3 merely confirms that this is the case and provides no mention of actions related to modifying database objects based on management criteria and characteristics of interest to a database.

Fourth, the rejection contends that *Chang* discloses monitoring results of modifying the database objects at page 12, ¶ 2. (Final Office Action at 3). Yet, *Chang* discloses at page 12, ¶ 2 continuously monitoring and controlling application requests for system resources. Thus, *Chang* does not even fairly suggest monitoring any results (not to mention results of modifying database objects based on actions determined from collected statistics as called for in Assignee's claims). The monitoring disclosed at page 12, ¶ 2 in *Chang* is not performed on results from the later described (and later occurring) automatic adaptation of the distributed application disclosed in *Chang* at page 12, ¶ 3. Thus, the rejection's premise is not even supported by how *Chang* describes his framework because the monitoring of results purported in the rejection does not even occur in *Chang*.

Fifth, the rejection contends that *Chang* discloses reconfiguring the management criteria associated with the database based on the results of modifying the database objects at page 12 ¶ 8. (Office Action at 3). This is incorrect for the fundamental reason that *Chang*'s disclosure is directed to changing the configuration of a distributed application and not to managing a database as noted previously. *Chang* at page 12, ¶ 8 further solidifies this fundamental distinction between Assignee's claims and *Chang*'s disclosure. Beginning at page 12, ¶ 8, for example, *Chang* discloses the structuring of the distributed application related to the run-time adaptation discussed. As explicitly discussed in *Chang*, the distributed application requires a way to execute under alternate configurations. Thus, *Chang* does not even fairly suggest reconfiguring any criteria used to manage database objects of a database after monitoring results of modifying those database objects based on collected statistics. Rather, *Chang* merely suggests executing a distributed application under an alternate configuration based on monitored resources.

In summary, Assignee's claims call for associating management criteria with a database to manage database objects (*Chang* discloses forms of information for an interface to a distributed application); and Assignee's claims call for collecting statistics relating to operation of a database and determining characteristics of database objects based on collected statistics (*Chang* discloses a monitoring agent specific to a distributed application that monitors resources of interest to the application and the progress of the application). In addition,

Assignee's claims call for determining actions to be performed on database objects based on the management criteria and the determined characteristics and modifying the database objects by performing the actions (*Chang* discloses switching the configuration of resources of interest for a distributed application). Furthermore, Assignee's claims call for monitoring results of modifying the database objects (*Chang* discloses monitoring and controlling application requests for system resources); and Assignee's claims call for reconfiguring the management criteria associated with the database based on the results of modifying the database objects (*Chang* discloses executing a distributed application under an alternate configuration). Consequently, *Chang* fails to teach or fairly suggest each claimed element in as complete detail contained in Assignee's independent claims 1, 16, and 31.

In fact, there is no discussion in *Chang* of managing a database and its objects (or any equivalent entity). Likewise, there is no discussion in *Chang* of management criteria associated with a database, statistics collected relating to operation of a database, database object characteristics determined from such collected statistics, actions determined and performed on database objects to modify them, monitored results from modifying the database objects, nor reconfiguration of management criteria based on monitored results. *Chang* is utterly silent about a database and database objects and makes no suggestion that *Chang's* framework for tuning the execution of a distributed application is even applicable to managing a database.

Even with the fundamental and numerous differences between *Chang's* teachings and Assignee's claims, the rejection attempts to render the claims obvious by citing to *Blattmann* as being combinable with *Chang*. In particular, the rejection cites to the Abstract and col. 5, lines 42-45 of *Blattmann* as providing all of the needed teachings missing from *Chang* to render Assignee's claims obvious. (See Final Office Action at 4.) However, *Blattmann* does not provide any of the limitations missing from *Chang* and does not make *Chang's* teachings applicable to Assignee's claimed invention. In *Blattmann*, the fragmentation and allocation of a distributed database is controlled by controlling what processes read from and write to the distributed database and at what frequency and by controlling where those processes are located. See *Blattmann* at Abstract & col. 3, ll. 20-29. To provide this control, *Blattmann* discloses using weighting and distribution functions. See *Blattmann* at col. 5, ll. 20-37 & col. 7, ll. 26-50.

Even though *Blattmann* discloses controlling a distributed database, *Blattmann* fails to teach or suggest the claimed elements missing from *Chang*. In particular, *Blattmann* fails to teach or suggest management criteria associated with a database, statistics collected relating to operation of a database, database object characteristics determined from such collected statistics, actions determined and performed on database objects to modify them, monitored results of modifying the database objects, and management criteria being reconfigured based on the monitored results, as called for in Assignee's claims and missing from *Chang*.

For at least these reasons, *Chang* in view of *Blattmann* fails to teach or suggest each and every claimed element of Assignee's claims, even if it were appropriate to combine *Chang* and *Blattmann* (which Assignee does not concede). Accordingly, Assignee respectfully requests that the Board reverse the rejection of claims 1-4, 6, 8-10, 12-19, 21, 23-25, 27-34, 36, 38-40, and 42-45 under 35 U.S.C. § 103(a).

C. No Motivation Exists for Making the Proposed Modification of *Chang*

Even with the numerous differences outlined above and the failure of *Blattmann* to provide the limitations missing from *Chang*, there is no motivation to make the proposed modification of *Chang* in view of *Blattmann* for at least the reasons presented below.

1. The Proposed Modification Renders *Chang* Unsatisfactory For Its Intended Purpose

No motivation exists for modifying *Chang* with *Blattmann* as proposed in the rejection because the modification would render *Chang* unsatisfactory for its intended purpose. "If proposed modification would render the prior art invention being modified unsatisfactory for its intended purpose, then there is no suggestion or motivation to make the proposed modification." MPEP 2143.01(V), citing *In re Gordon*, 733 F.2d 900, 221 USPQ 1125 (Fed. Cir. 1984). In *In re Gordon*, it was noted that modifying the prior art device in the way proposed in the rejection would render the device unsatisfactory for its intended purpose. For this reason, it was held that no suggestion or motivation to make the proposed modification existed.

The present rejection appears to be no different. In essence, the rejection proposes taking *Chang*'s entire teachings related to tuning a distributed application and switching the

teachings to managing a database instead. Yet, *Chang's* intended purpose is to dynamically choose an alternate configuration of a distributed application during real-time in a way most appropriate for a prescribed user's preference. See e.g., *Chang* at Abstract & pg. 19. Switching *Chang's* teachings to instead manage a database would completely eviscerate *Chang's* intended purpose of switching the configuration of a distributed application appropriate to user's preference. For this reason, no motivation exists for modifying *Chang* with *Blattmann* as proposed in the rejection.

2. The Proposed Modification Changes the Principle of Operation of *Chang*

No motivation exists for modifying *Chang* with *Blattmann* as proposed because the modification would change the principle of operation of *Chang*. "If the proposed modification or combination of the prior art would change the principle of operation of the prior art invention being modified, then the teachings of the references are not sufficient to render the claims *prima facie* obvious." MPEP 2143.01 (VI), citing *In re Ratti*, 270 F.2d 810, 123 USPQ 349 (CCPA 1959). In *In re Ratti*, a suggested combination of prior art references would have required a substantial reconstruction and redesign of the primary reference as well as a change in the basic principle under which the primary reference was designed to operate. For this reason, it was held that the teachings of the references were insufficient to render the rejected claims *prima facie* obvious.

In the present application, the rejection proposes entirely redesigning *Chang's* teachings related to tuning a distributed application at run-time to instead manage of a database. See Final Office Action at 4. As noted previously, however, *Chang* makes no mention of managing a database or performing the management steps claimed. As also noted previously, numerous differences exist between *Chang* and Assignee's claims that changing *Chang's* teachings to manage a database as in Assignee's claims would require a substantial reconstruction and redesign of what *Chang* actually teaches. This required reconstruction and redesign indicates that one skilled in the art would not have been motivated to make the modifications to *Chang* as proposed. For this reason, no motivation exists for modifying *Chang* with *Blattmann* as proposed in the rejection.

3. No Rational Reason Exists for Combining *Chang* and *Blattmann*

The rejection fails to present a *prima facie* case of obviousness because the reasons given for combining *Chang* and *Blattmann* are factually incorrect and conclusory. The reasoning presented in the rejection contends that using “the functionality of [a] management application governing a network server and its resource utilization to a database and database objects” would be obvious “because servers can include database[s] and can be themselves considered an organized structure body of data used for storage and retrieval as prevalent in the art.” Final Office Action at 4. First, the rejection’s reasoning is factually incorrect because *Chang* is not directed to managing a network server as purported. Rather, *Chang* is explicitly directed to choosing an alternate configuration of a distributed application at run-time in response to changing system resources. See e.g., *Chang* at Abstract; ¶5, pg. 11; ¶¶ 1 & 2, pg. 12; ¶¶ 3-8, pg. 13, etc. The incorrect characterization of *Chang*’s teachings not only indicates that the rejection fails to establish a *prima facie* case of obviousness, but also indicates that one skilled in the art would not have been motivated to make the modification of *Chang* in view of *Blattmann* as proposed.

Second, the rejection’s reasoning is merely conclusory and fails to meet any of the basic requirements of a *prima facie* case of obviousness. As is well established, “rejections on obviousness cannot be sustained by mere conclusory statements; instead, there must be some articulated reasoning with some rational underpinning to support the legal conclusion of obviousness.” KSR, 82 USPQ2d at 1396 quoting *In re Kahn*, 441 F.3d 977, 988, 78 USPQ2d 1329, 1336 (Fed. Cir. 2006). Characterizing *Chang* (incorrectly) as teaching a management application that governs a server and then equating a server to a database as proposed in the rejection lacks the articulated reasoning and rational underpinnings required to support a rejection for obviousness. This further indicates that the rejection fails to establish a *prima facie* case of obviousness.

In light of the above, no motivation exists for modifying *Chang* with *Blattmann* as proposed in the rejection, and Assignee respectfully requests that the Board reverse the

rejection of claims 1-4, 6, 8-10, 12-19, 21, 23-25, 27-34, 36, 38-40, and 42-45 under 35 U.S.C. § 103(a).

D. Conclusion

As evidenced above, the contrast between Assignee's claims and what is actually disclosed in *Chang* and *Blattmann* shows that *Chang* fails to disclose or even suggest the limitations of Assignee's claims and that *Blattmann* fails to provide the limitations missing from *Chang*. For at least these reasons, *Chang* in view of *Blattmann* cannot render Assignee's claims obvious. Consequently, Assignee respectfully requests that the Board grant Assignee's appeal by reversing the rejection of claims 1-4, 6, 8-10, 12-19, 21, 23-25, 27-34, 36, 38-40, and 42-45 under 35 U.S.C. § 103(a).

Respectfully submitted,

/Sean McDermott/

Reg. No. 49,000

Submitted Electronically Via EFS

Wong, Cabello, Lutsch, Rutherford & Brucculeri, L.L.P.
20333 State Highway 249, Suite 600
Houston, TX 77070
(Tel) 832/446-2416
(Fax) 832/446-2424

VIII. CLAIMS APPENDIX

1. (Previously Presented) An automated database management method for a database comprising one or more database objects, the method comprising:
 - associating management criteria with the database to manage database objects;
 - collecting statistics relating to operation of the database;
 - determining characteristics of the database objects based on the collected statistics;
 - determining actions to be performed on one or more database objects to modify the one or more database objects based on the management criteria and the determined characteristics of the database objects;
 - modifying the one or more database objects by performing the actions on the database objects;
 - monitoring results of modifying the database objects; and
 - reconfiguring the management criteria associated with the database based on the results of modifying the database objects.
2. (Previously Presented) The database management method of claim 1, further comprising:
 - automatically determining a schedule to perform the actions on the database objects, wherein the performing the actions on the database objects comprises performing the actions on the database objects based on the schedule.
3. (Original) The database management method of claim 2, wherein the performing the actions on the database objects based on the schedule comprises automatically performing the actions on the database objects based on the schedule.
4. (Original) The database management method of claim 1, further comprising:
 - confirming the performing the actions on the database objects.

5. (Cancelled)
6. (Previously Presented) The database management method of claim 1, wherein the determining the characteristics of the database objects comprises automatically determining the characteristics of the database objects.
7. (Cancelled)
8. (Previously Presented) The database management method of claim 1, wherein the determining the actions to be performed on the database objects based on the characteristics of the database objects comprises automatically determining the actions to be performed on the database objects based on the characteristics of the database objects.
9. (Previously Presented) The database management method of claim 1, wherein the statistics comprise object-level statistics.
10. (Previously Presented) The database management method of claim 1, wherein the statistics comprise activity-level statistics.
11. (Cancelled)
12. (Previously Presented) The database management method of claim 1, wherein the determining the characteristics of the database objects comprises determining the characteristics of the database objects using one or more policies in the management criteria.

13. (Previously Presented) The database management method of claim 1, wherein the determining the characteristics of the database objects comprises determining the characteristics of the database objects using one or more definitions in the management criteria.

14. (Previously Presented) The database management method of claim 1, further comprising:

customizing one or more definitions in the management criteria.

15. (Previously Presented) The database management method of claim 1, further comprising: customizing one or more policies in the management criteria.

16. (Previously Presented) A program storage device comprising program instructions stored thereon, wherein the program instructions are computer-executable to cause a programmable control device to implement:

associating management criteria with a database to manage database objects of the database;

collecting statistics relating to operation of the database;

determining characteristics of the database objects based on the collected statistics;

determining actions to be performed on one or more of the database objects to modify

the one or more database objects based on the management criteria and the

determined characteristics of the database objects;

modifying the one or more database objects by performing the actions on the database objects;

monitoring results of modifying the database objects; and

reconfiguring the management criteria associated with the database based on the results of modifying the database objects.

17. (Previously Presented) The program storage device of claim 16, wherein the program instructions are further computer-executable to implement:

automatically determining a schedule to perform the actions on the database objects, wherein the performing the actions on the database objects comprises performing the actions on the database objects based on the schedule.

18. (Previously Presented) The program storage device of claim 17, wherein the performing the actions on the database objects based on the schedule comprises automatically performing the actions on the database objects based on the schedule.

19. (Previously Presented) The program storage device of claim 16, wherein the program instructions are further computer-executable to implement:

confirming the performing the actions on the database objects.

20. (Cancelled)

21. (Previously Presented) The program storage device of claim 16, wherein the determining the characteristics of the database objects comprises automatically determining the characteristics of the database objects.

22. (Cancelled)

23. (Previously Presented) The program storage device of claim 16, wherein the determining the actions to be performed on the database objects based on the characteristics of the database objects comprises automatically determining the actions to be performed on the database objects based on the characteristics of the database objects.

24. (Previously Presented) The program storage device of claim 16, wherein the statistics comprise object-level statistics.

25. (Previously Presented) The program storage device of claim 16, wherein the statistics comprise activity-level statistics.

26. (Cancelled)

27. (Previously Presented) The program storage device of claim 16, wherein the determining the characteristics of the database objects comprises determining the characteristics of the database objects using one or more policies in the management criteria.

28. (Previously Presented) The program storage device of claim 16, wherein the determining the characteristics of the database objects comprises determining the characteristics of the database objects using one or more definitions in the management criteria.

29. (Previously Presented) The program storage device of claim 16, wherein the program instructions are further computer-executable to implement:
customizing one or more definitions in the management criteria.

30. (Previously Presented) The program storage device of claim 16, wherein the program instructions are further computer-executable to implement: customizing one or more policies in the management criteria.

31. (Previously Presented) A database management system comprising:
- a CPU;
 - a database coupled to the CPU, wherein the database comprises one or more database objects; and
 - a memory coupled to the CPU, wherein the memory stores program instructions which are executable by the CPU to:
 - associate management criteria with the database to manage database objects;
 - collect statistics relating to operation of the database;
 - determine characteristics of the database objects based on the collected statistics;
 - determine actions to be performed on the database objects to modify the database objects based on the management criteria and the determined characteristics of the database objects;
 - modify the database objects by performing the actions on the database objects;
 - monitor results of modifying the database objects; and
 - reconfigure the management criteria associated with the database based on the results of modifying the database objects.
32. (Previously Presented) The database management system of claim 31, wherein the program instructions are further executable by the CPU to:
- automatically determine a schedule to perform the actions on the database objects, wherein in performing the actions on the database objects, the program instructions are further executable by the CPU to perform the actions on the database objects based on the schedule.

33. (Original) The database management system of claim 32, wherein in performing the actions on the database objects based on the schedule, the program instructions are further executable by the CPU to automatically perform the actions on the database objects based on the schedule.

34. (Original) The database management system of claim 31, wherein the program instructions are further executable by the CPU to:
confirm the performing the actions on the database objects.

35. (Cancelled)

36. (Previously Presented) The database management system of claim 31, wherein in determining the characteristics of the database objects, the program instructions are further executable by the CPU to automatically determine the characteristics of the database objects.

37. (Cancelled)

38. (Previously Presented) The database management system of claim 31, wherein in determining the actions to be performed on the database objects based on the characteristics of the database objects, the program instructions are further executable by the CPU to automatically determine the actions to be performed on the database objects based on the characteristics of the database objects.

39. (Previously Presented) The database management system of claim 31, wherein the statistics comprise object-level statistics.

40. (Previously Presented) The database management system of claim 31, wherein the statistics comprise activity-level statistics.

41. (Cancelled)

42. (Previously Presented) The database management system of claim 31, wherein in determining the characteristics of the database objects, the program instructions are further executable by the CPU to determine the characteristics of the database objects using one or more policies in the management criteria.

43. (Previously Presented) The database management system of claim 31, wherein in determining the characteristics of the database objects, the program instructions are further executable by the CPU to determine the characteristics of the database objects using one or more definitions in the management criteria.

44. (Previously Presented) The database management system of claim 31, wherein the program instructions are further executable by the CPU to:
customize one or more definitions in the management criteria.

45. (Previously Presented) The database management system of claim 31, wherein the program instructions are further executable by the CPU to: customize one or more policies in the management criteria.

IX. EVIDENCE APPENDIX

There is no evidenced submitted pursuant to §§ 1.130, 1.131, or 1.132. Accordingly, this appendix is intentionally empty.

X. RELATED PROCEEDINGS APPENDIX

There are no related proceedings. Accordingly, this appendix is intentionally empty.